ENERGY EFFICIENT LIGHTING TECHNOLOGIES

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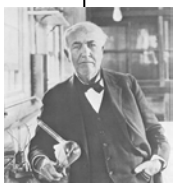
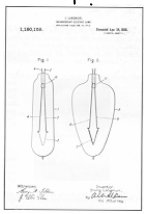
GE's History of Lighting Innovations---Edison to Halogen….

History of Lighting Energy Saving Products

1890 — First Incandescent Lamp



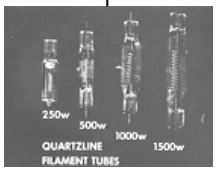
1916 — First Energy Saving Lamp



1933 — First Mercury Vapor Lamp

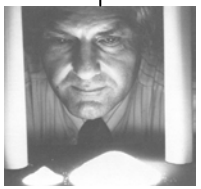
1939 — First Fluorescent Lamp

1959 — First Quartz Halogen Lamp



1965 — First HPS Lucalox® & MultiVapor®

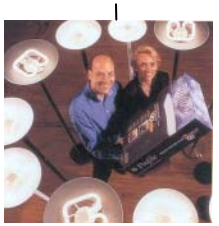
1973 — First Energy Saving Fluorescent



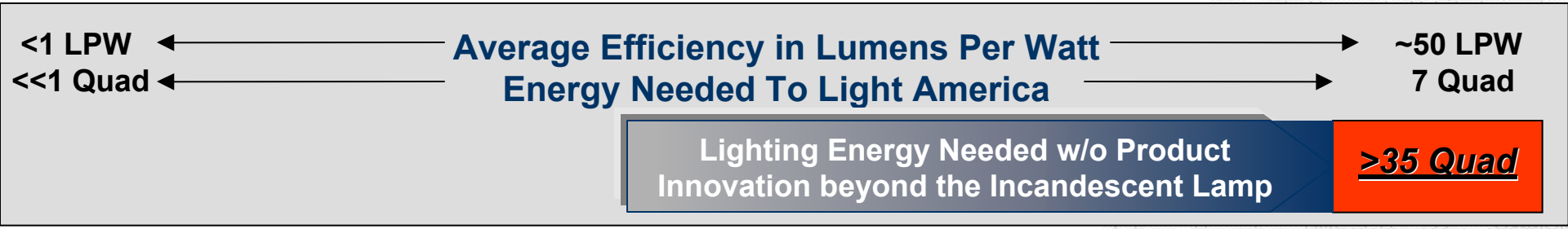
1990 — First Halogen HIR™

1994 — First Genura® CFL

1998 — First EnergyStar 2D™ Torchiere



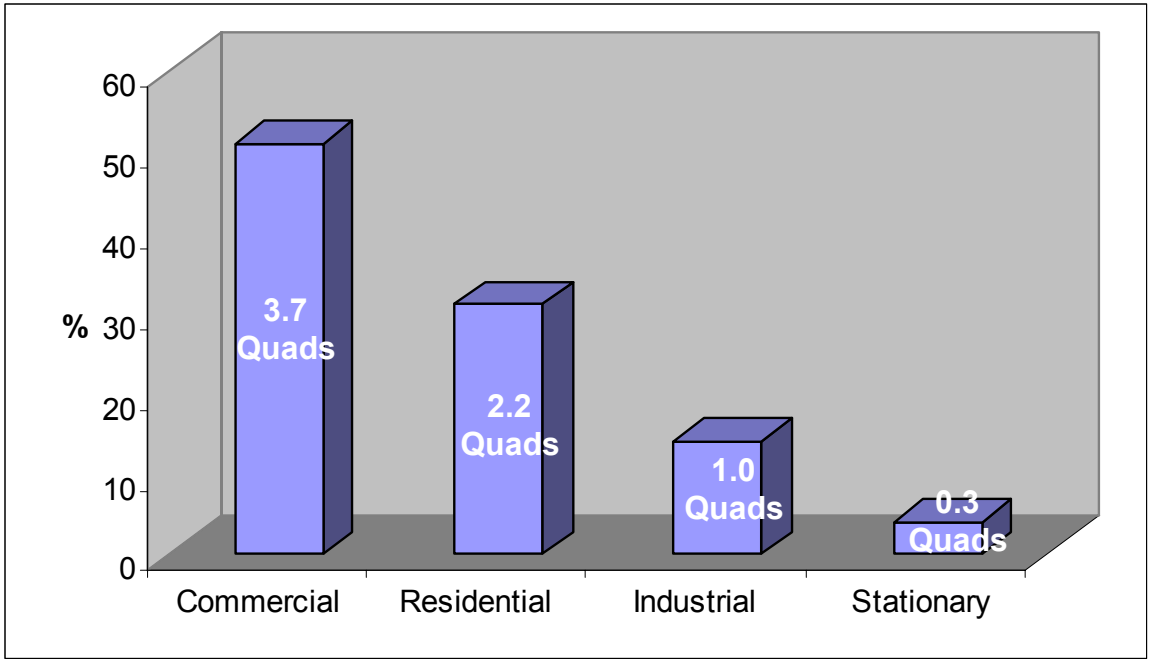
2002 — White LED Arrays



Energy Efficiency Continues to Be Key to Development in the 21st Century

Lighting Energy Consumption

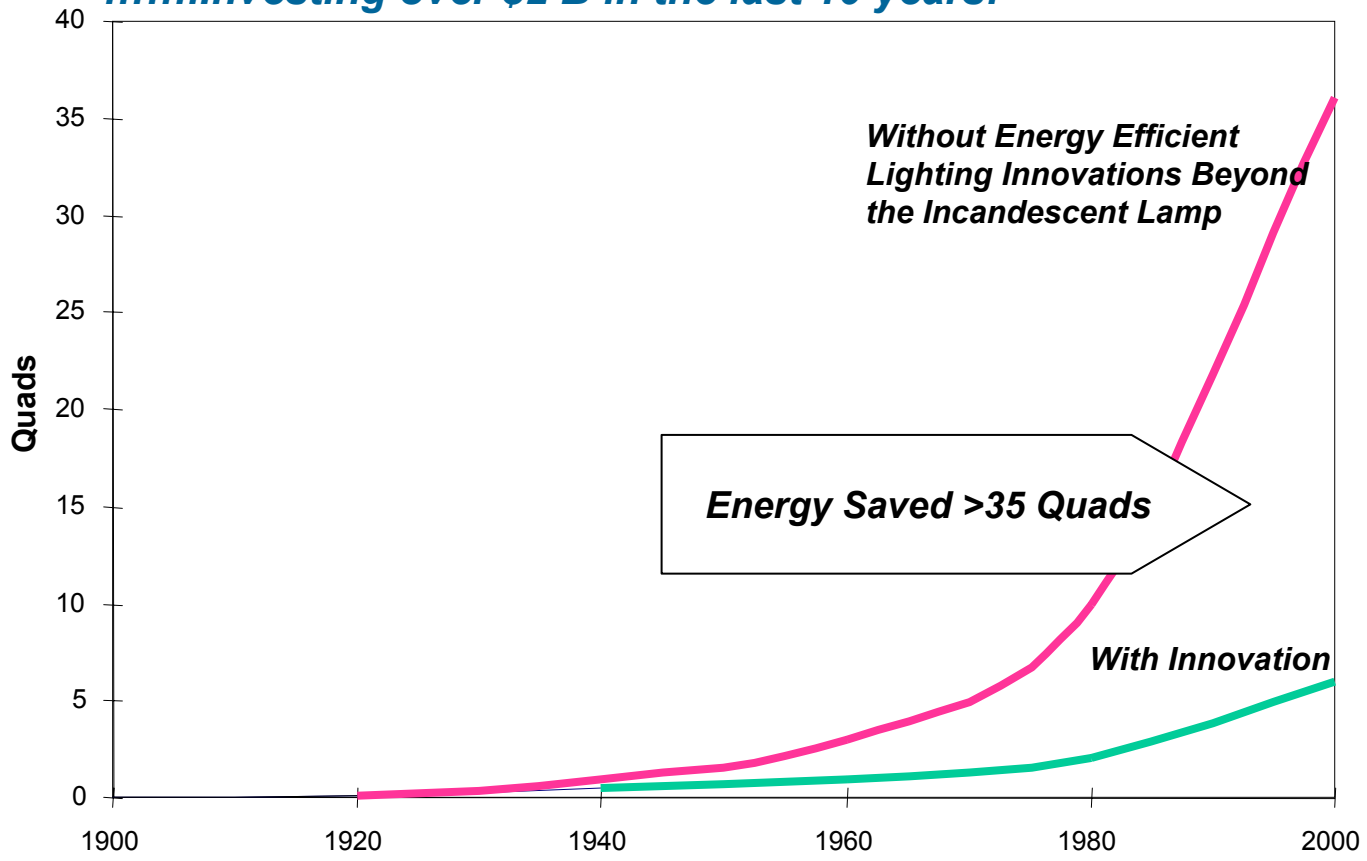
- *20% of the Nations Electricity is consumed for Lighting*
  - *51% of the total Energy consumed is Commercial Building lighting*
  - *31% of the total Energy consumed is Residential lighting*
  - *18% of the total Energy consumed is Industrial and outdoor lighting*
- *25% of the Nations Cost of Electricity is Lighting*



Energy Efficient Lighting Can Significantly Reduce Energy Demand

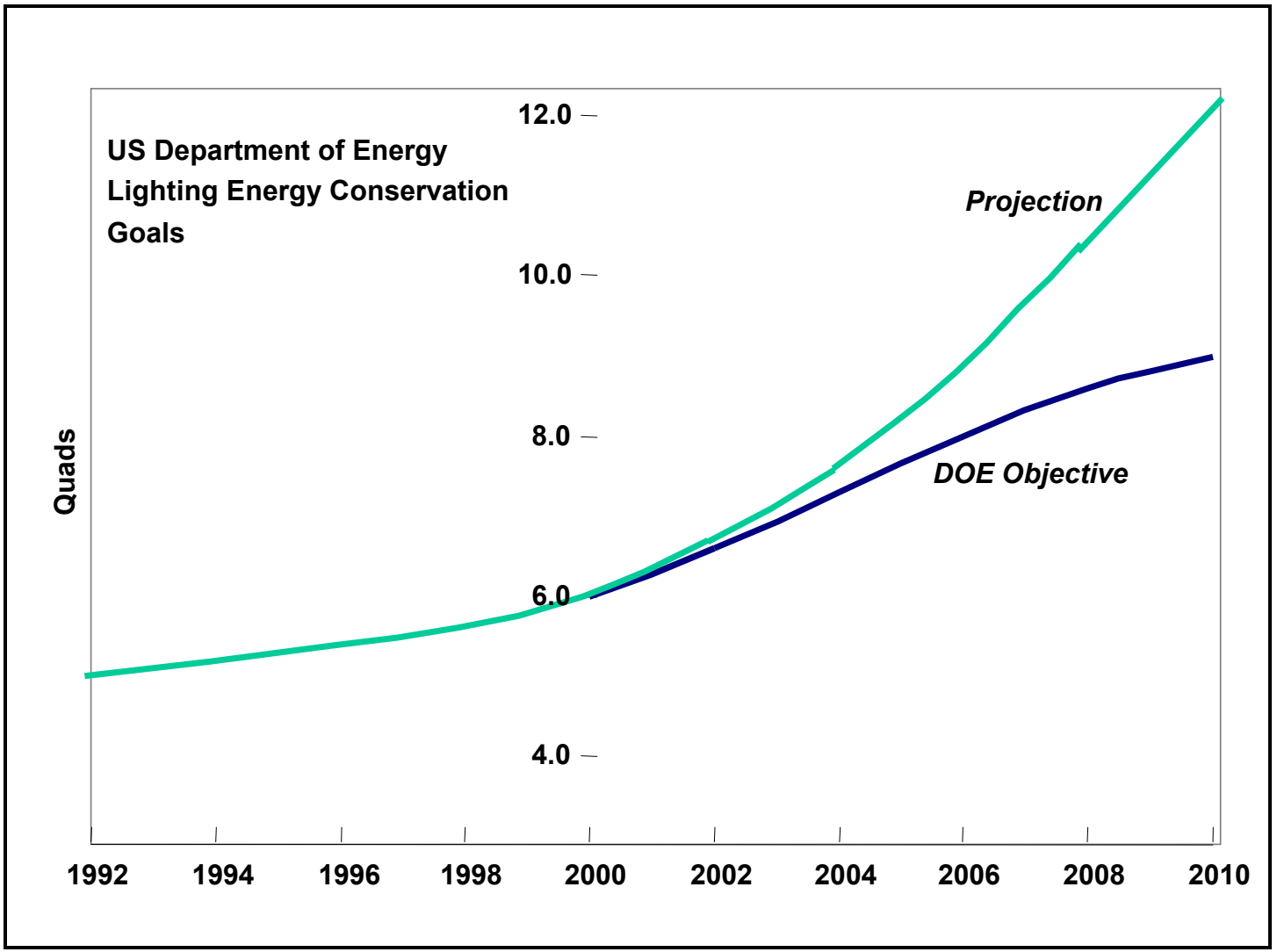
Lighting Industries Committed to Energy Efficient Product Development

…….Investing over $2 B in the last 10 years:



Industry Committed to Development, Need Continued Investments in Research

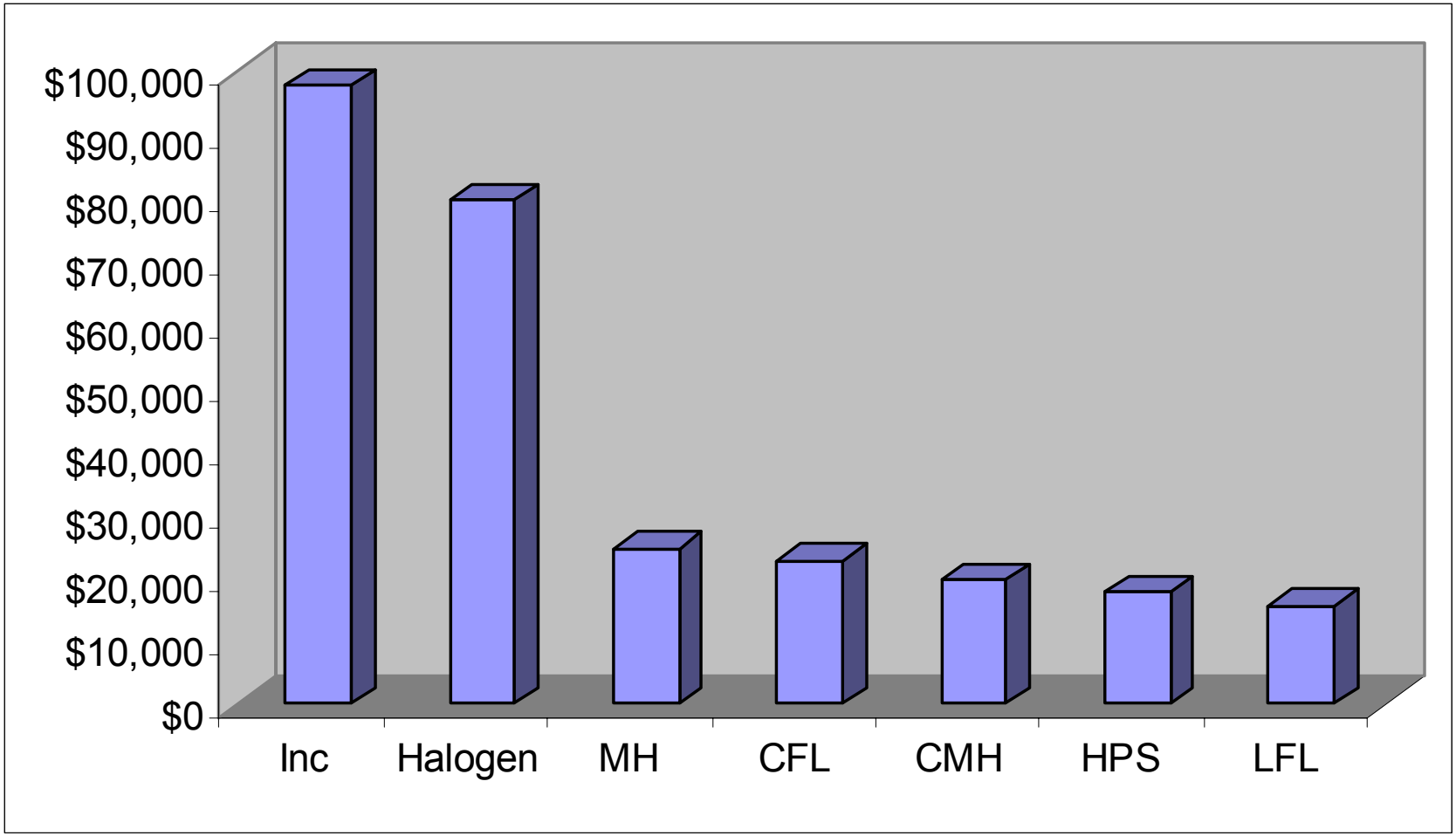
Lighting Energy Forecast



Investment from both Private and Gov't Sector's key to meeting Energy Goals

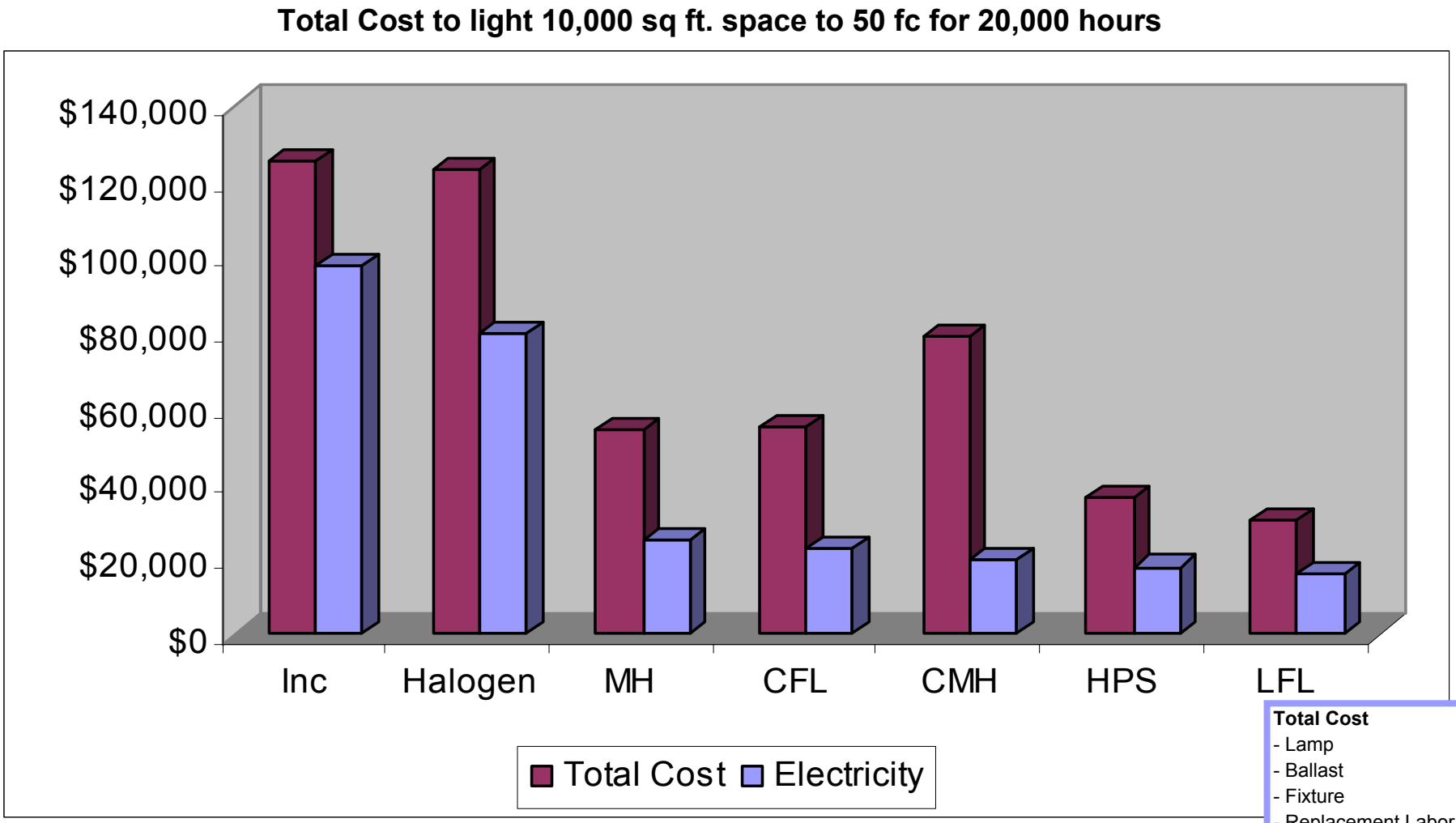
Cost of Lighting

Electricity Cost to light 10,000 sq ft. space to 50 fc for 20,000 hours



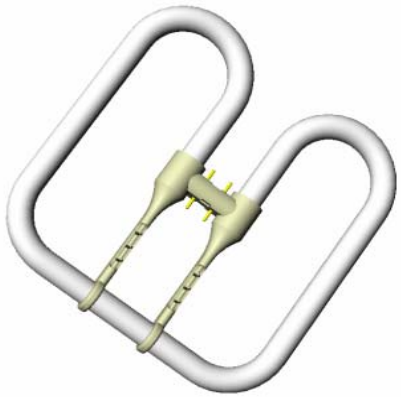
Energy Efficient Lighting Can Significantly Effect Base Operating Costs

Cost of Lighting



Electricity Cost is the Largest Part of the Total Cost of Lighting

CFL Energy Efficient Lighting

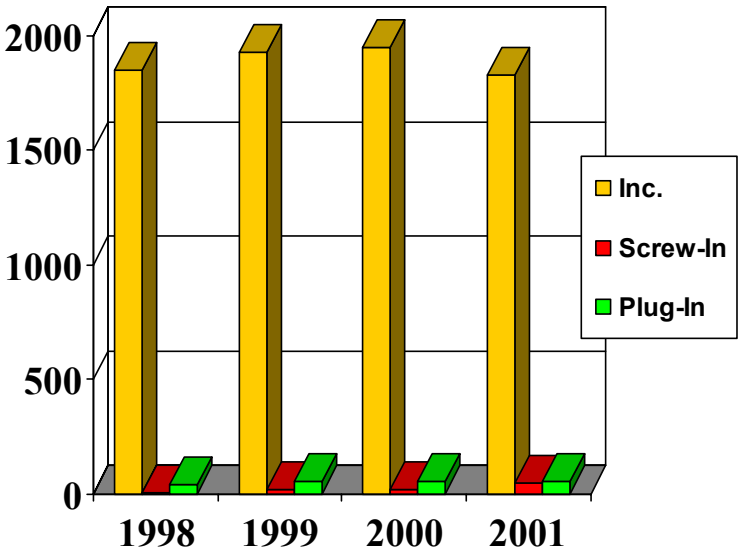


Compact Fluorescent :

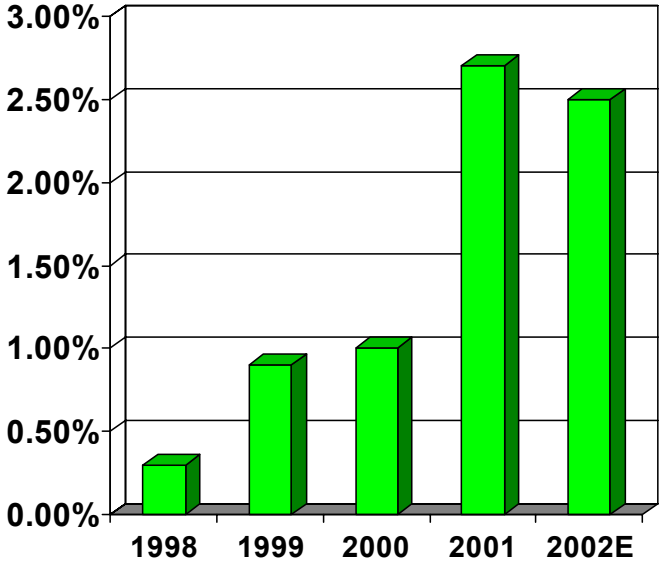
- Replaces standard incandescent
- 75% reduction in Electricity consumed, Saves between $26 and $86
- 12 Times the Life of standard Incandescent
- Performance continues to improve with Technical innovation

- 1.8B A-line Incandescent Lamps sold in U.S., 2001
- 48 MM CFL's sold in U.S., 2001
- CFL's = 4x efficiency & 12x Life of Standard Incandescent
- Less than 3% of U.S. Sockets converted to CFL
- Europe conversion to CFL > 12%

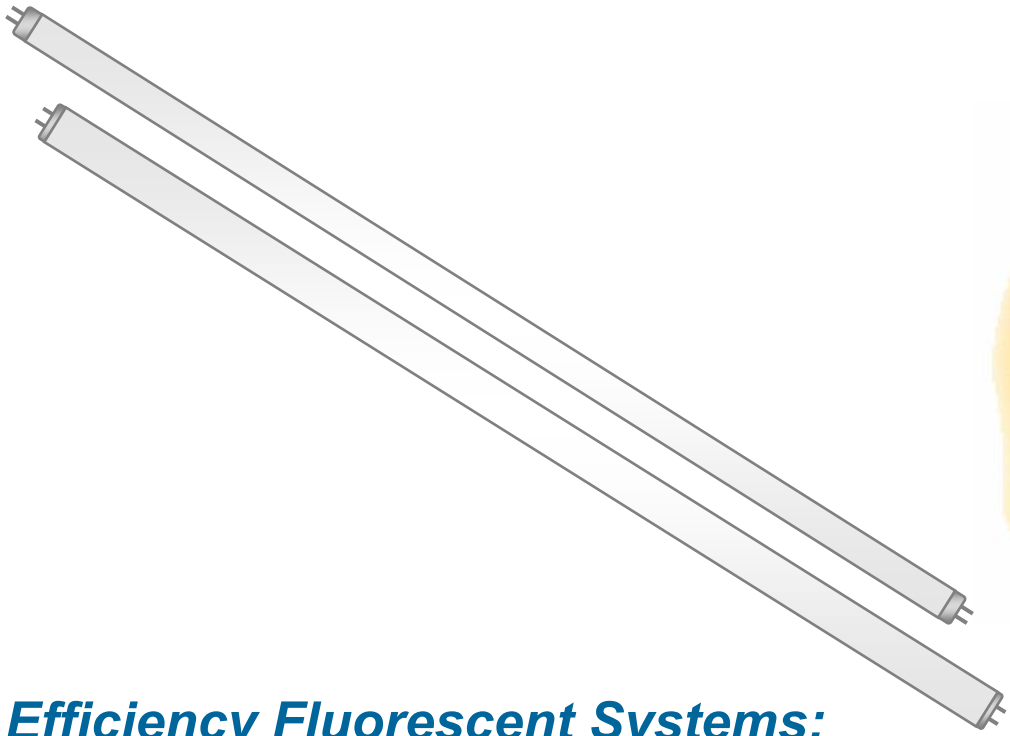
US Incandescent vs. CFL

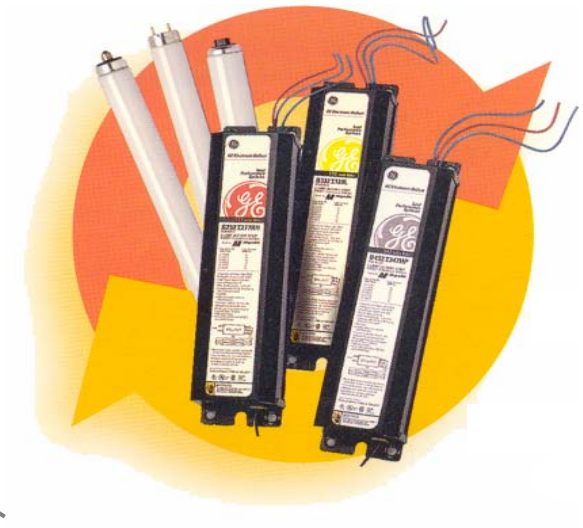


US Percent CFL Penetration



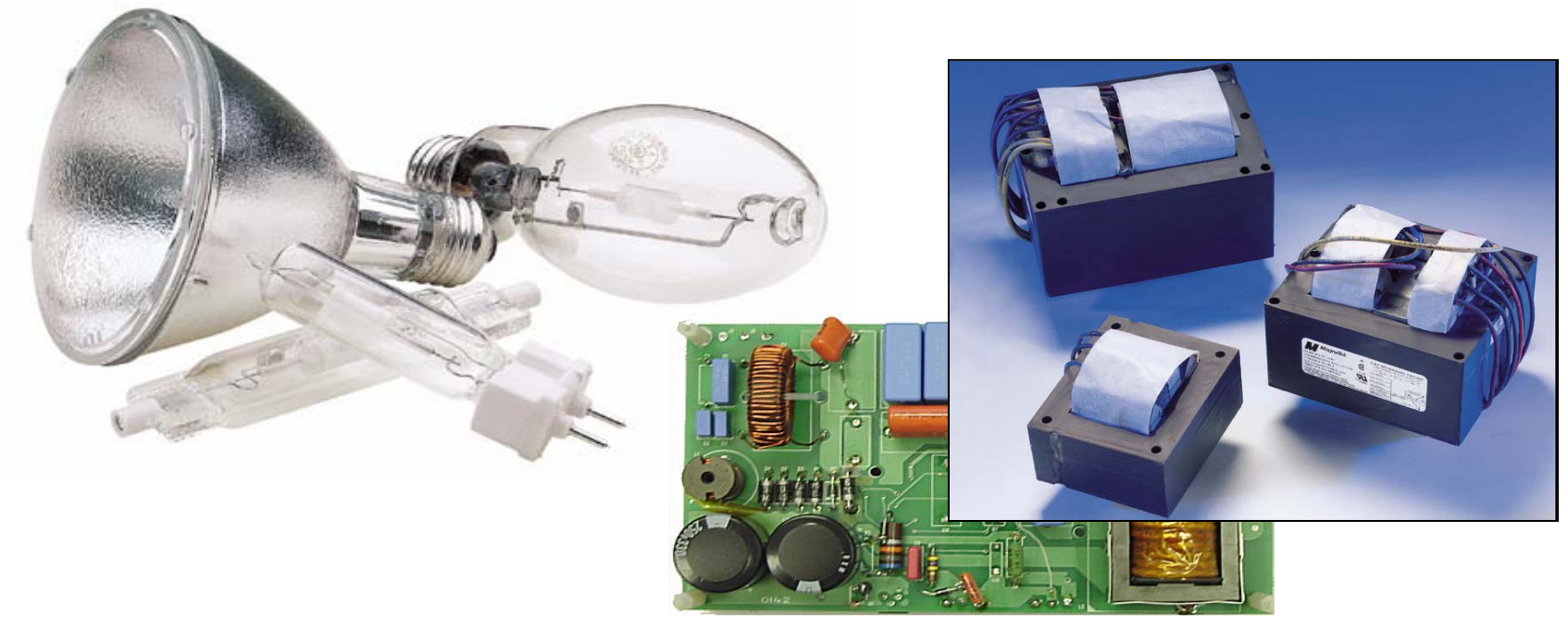
Continued CFL Growth Depends on Quality & Consumer Trust





High Efficiency Fluorescent Systems:

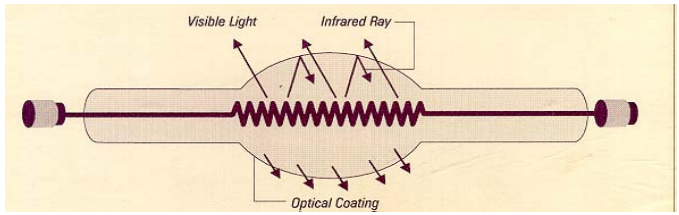
- ***Replaces existing T-12 40W Fluorescent lamps and E/M Ballasts***
- ***40% Energy Saved with T8 lamps and Electronic Ballasts***
- ***Next Generation Lamps and high efficiency ballasts save another 11%***
- ***Lighting Controls for User and Peak Demand Load Reduction***
- ***10% Higher Efficiency T5 lamps, used in High Bay and Indirect lighting***



High Intensity Discharge lamps:

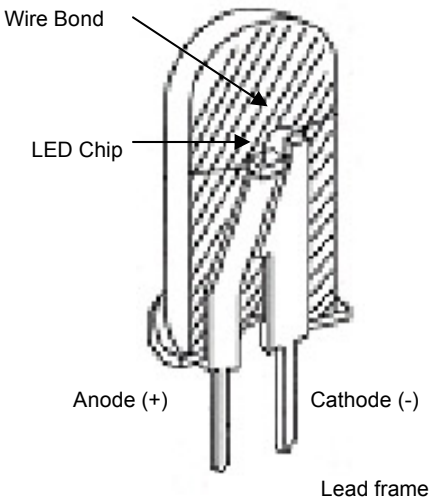
- Next Generation HID products reduce Electricity used by up to 24%
- Improved Color with Ceramic Metal Halide bringing HID Indoors
- Electronic Ballasts will enable longer life and improved efficiency
- Electronic Controls provide additional Energy Savings

Halogen Energy Efficient Lighting



Halogen lamps:

- Standard Halogen lamps use 10% less Energy vs Incandescent
- Halogen IR reduces Energy an additional 25% over standard halogen
- New Integrated MR-16 saves 60% vs. Halogen PAR's



LED lamps:

- 10 – 100X Longer Life
- UV LED's with phosphor Generate White Light
- 20 Lumens per Watt today…expect to double within the next 5 years
- Next Generation O-LED's under development

- *Commercialize Newly Developed Technologies*
- *Promote Lighting Technology Upgrades*
  - *Energy Star Buildings*
  - *Rebuild America*
- *Expand Promotion and Enforcement of Energy Star*
- *Expand Consumer Incentives*
- *Provide Tax Incentives for Building Energy Efficiency*

Energy Efficient Products Exist today to reduce Lighting load by >25%

- *Continue Funding Research in Lighting Technologies*
  - *Lamp Discharge*
  - *Phosphor Technology*
  - *Electronics & Controls*

- *Solid State Lighting*
  - *Expand Investment in Next Generation SSL Research (US significantly behind in support of Industry)*
  - *Further Development required for Manufacturing, Materials and Process*
  - *Funding Required for Infrastructure and Product Development*

Continued Research Needed for Higher Efficiency Lighting Products